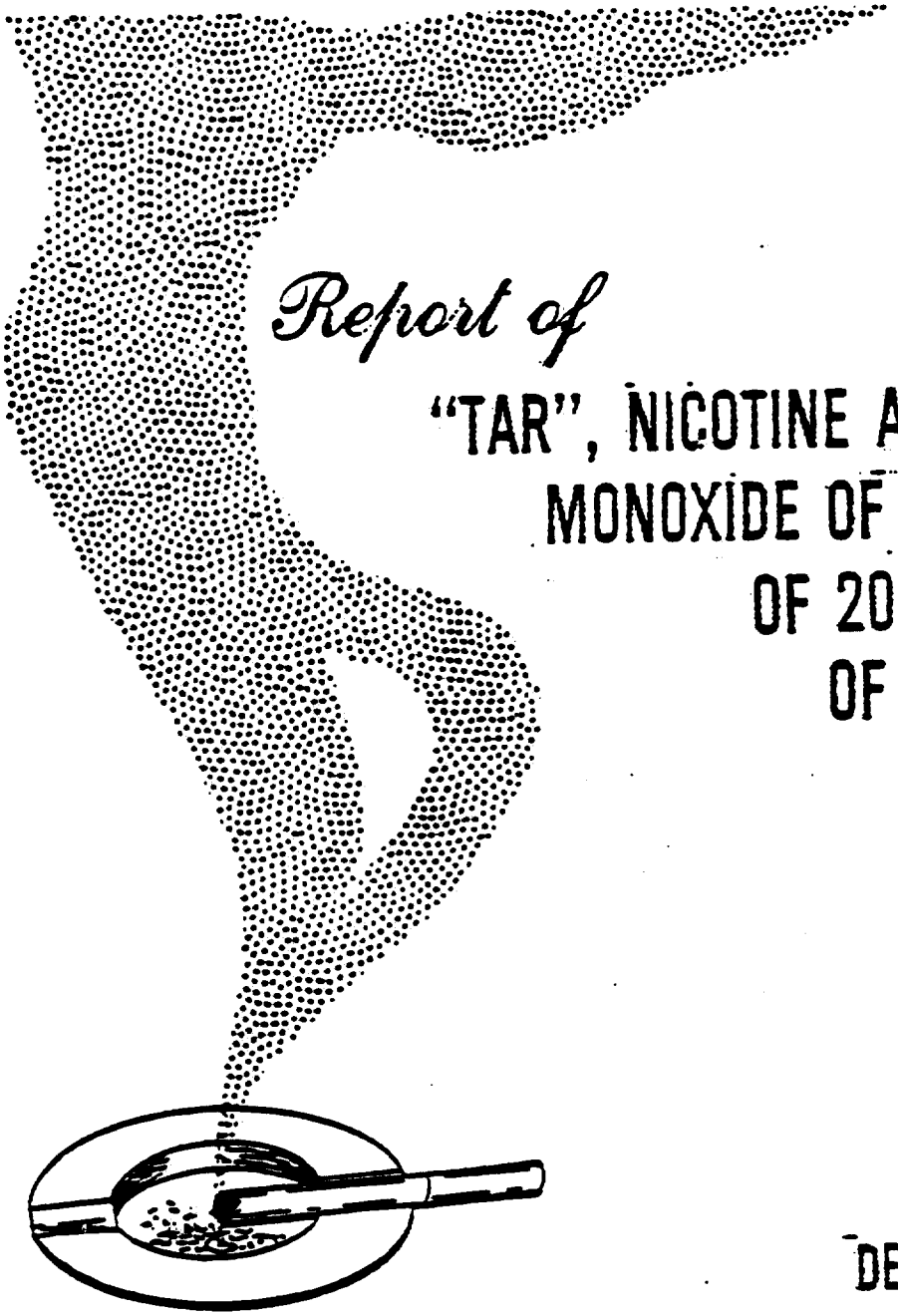
Federal Trade Commission



Report of

"TAR", NICOTINE AND CARBON MONOXIDE OF THE SMOKE OF 200 VARIETIES OF CIGARETTES

DECEMBER 1981

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REPORT OF "TAR", NICOTINE AND CARBON MONOXIDE CONTENT OF THE SMOKE OF 200 VARIETIES OF CIGARETTES

December 1981

The Federal Trade Commission's Laboratory has determined the "tar" (dry particulate matter), total alkaloid (reported as nicotine) and carbon monoxide content of 200 varieties of cigarettes. The laboratory utilized the Cambridge filter method with the following specifications as set forth in the Commission's announcement of July 31, 1967:

1. Smoke cigarettes to a 23 mm. butt length, or to the length of the filter and overwrap plus 3 mm. if in excess of 23 mm.

2. Base results on a test of approximately 100 cigarettes per brand, or type.

3. Cigarettes to be tested will be selected on a random basis, as opposed to "weight selection".

4. Determine particulate matter on a "dry" basis employing the gas chromatography method published by C. E. Sloan and B. J. Sublett in Tobacco Science 9, page 70, 1965, as modified by F. J. Schultz' and A. W. Spears' report published in Tobacco Vol. 162, No. 24, page 32, dated June 17, 1966, to determine the moisture content.

5. Determine and report the "tar" content after subtracting moisture and alkaloids (as nicotine) from particulate matter.

6. Carbon Monoxide is determined by non-dispersal infrared spectrophotometer.

Concerning the 200 varieties tested, 15 were capable of being smoked to 23 mm. The butt length of the other 185 varieties tested ranged from 24.1 mm. to an average of between 46.6 to 50.0 mm. The butt lengths of 159 of the 200 varieties tested exceed 30 mm.

The samples used were obtained by attempting to purchase two packages of each variety of cigarettes as distributed by domestic cigarette manufacturers during March and April 1981 in each of 50 geographic locations throughout the country. All varieties of cigarettes were not available in each of the 50 geographic locations and in these instances, one or more additional packages of cigarettes

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were purchased in those geographic locations where respective varieties were available. The samples utilized in the tests were representative of the 200 varieties of cigarettes as available throughout the country at the time of purchase.

In the table listing the cigarette varieties in alphabetical order the "tar" and carbon monoxide content is reported to the nearest 1/10 milligram and the nicotine to the nearest 1/100 milligram, each with appropriate statistical values. The average weight is reported in grams per cigarette and the butt length range to the nearest 1/10 millimeter. In all other tables the average weight and butt length columns and the figures representing the standard deviation of the mean have been eliminated. The "tar" and carbon monoxide figures have been rounded to the nearest milligram (0.5 milligrams and greater rounded up, 0.4 milligrams and less rounded down) and the nicotine figures have been rounded to the nearest tenth of a milligram (0.05 milligrams and greater rounded up, 0.04 milligrams and less rounded down). Three tables respectively list varieties in increasing order of "tar" values, in increasing order of nicotine values and in increasing order or carbon monoxide values. Accordingly, "tar", nicotine and carbon monoxide figures in the tables and list represent rounded off averages without indication of their precision.

A group of cigarette companies has filed a complaint with the Commission alleging that the current cigarette testing methodology does not accurately assess the "tar" and nicotine that Barclay cigarettes deliver relative to the "tar" and nicotine that other cigarette brands deliver. The complainant cigarette companies further allege that Barclay, a 1 mg. cigarette under the current FTC method, delivers more "tar" to the smoker than do other 1 mg. "tar" cigarette brands.

The complainant cigarette companies state that a cigarette manufacturer can reduce the "tar" delivery of a cigarette by a variety of different methods. One way to decrease "tar" delivery involves diluting the cigarette smoke inhaled with air brought into the filter through some form of ventilation. The higher the percentage diluted air inhaled, the lower the "tar" delivery. Methods to increase the amount of ventilation or air dilution vary from brand to brand. Many low "tar" cigarettes have a filter surrounded by porous paper with one or more rows of ventilating holes encircling the filter. When the filter is puffed, air enters the filter through the ventilation holes where it mixes with the smoke.

In the Barclay filter, air entering the ventilation holes travels to the smoker's mouth through four grooves in the filter. The complainant cigarette companies allege that when consumers smoke Barclay cigarettes, the four grooves either collapse or are in some way blocked. When tested in the FTC laboratory using the current cigarette holder, however, the companies allege that the grooves do not collapse and are not blocked. Thus, it is contended that the Commission's current testing methodology does not accurately measure the relative level of "tar" delivered by Barclay to smokers when

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compared with other 1 mg. "tar" cigarettes. The Commission is currently investigating these allegations, and has not made a final determination on the merits of this complaint. An asterisk is appended to the test scores included in this report that this investigation may affect.

It also should be noted that cigarette brands which recorded "tar" scores below 0.5 mg., nicotine below 0.05 mg. and carbon monoxide below 0.5 mg. per cigarette in this test are recorded in the accompanying tables as <0.5 mg. "tar," <0.05 mg. nicotine and <0.5 mg. carbon monoxide. The tables do not differentiate between these cigarettes because the current, approved testing methodology is not sensitive enough to differentiate between cigarettes at these levels.

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TAR(1), NICOTINE(2) AND CARBON MONOXIDE OF TWO-HUNDRED (200) DOMESTIC CIGARETTES

BRAND	TYPE(3)		AVERAGE WEIGHT(4)	BUTT LENGTH(5)	TPM DRY(1)*	NICOTINE*	CARBON MONOXIDE
Alpine	F. M. SP.	85mm	0.9753	28.1 - 29.5mm	13.9 ± 0.5	0.89 ± 0.02	13.4 ± 0.5
American Lights 120's	F. SP.	120mm	1.1550	46.6 - 50.0mm	7.7 ± 0.3	0.70 ± 0.02	8.5 ± 0.4
American Lights 120's	F. M. SP.	120mm	1.1983	47.0 - 48.4mm	7.5 ± 0.3	0.67 ± 0.03	8.4 ± 0.4
Arctic Lights	F. M. SP.	85mm	1.0191	31.5 - 34.0mm	7.5 ± 0.4	0.65 ± 0.02	8.5 ± 0.4
Arctic Lights 100's	F. M. SP.	100mm	1.1659	32.8 - 36.8mm	7.4 ± 0.4	0.64 ± 0.03	9.2 ± 0.4
Barclay 6/	F. HP.	80mm	0.8249	33.0 - 36.5mm	0.7 ± 0.2	0.15 ± 0.02	1.0 ± 0.2
Barclay 6/	F. SP.	85mm	0.8482	33.6 - 36.1mm	0.8 ± 0.4	0.15 ± 0.03	1.1 ± 0.2
Barclay 100's 6/	F. SP.	100mm	1.0673	37.6 - 39.9mm	2.2 ± 0.2	0.26 ± 0.02	2.2 ± 0.2
Belair	F. M. SP.	85mm	0.9531	31.6 - 33.9mm	8.2 ± 0.3	0.72 ± 0.02	9.1 ± 0.4
Belair 100's	F. M. SP.	100mm	1.1394	37.2 - 39.5mm	8.4 ± 0.3	0.64 ± 0.02	10.1 ± 0.5
Benson & Hedges	Reg. F. HP.	70mm	0.9696	32.4 - 33.8mm	**	0.10 ± 0.02	1.2 ± 0.1
Benson & Hedges	F. HP.	85mm	1.0332	31.8 - 33.4mm	14.9 ± 0.4	1.18 ± 0.03	12.3 ± 0.3
Benson & Hedges 100's	F. HP.	100mm	1.1087	33.6 - 35.5mm	16.0 ± 0.5	1.07 ± 0.04	13.6 ± 0.4
Benson & Hedges 100's	F. M. HP.	100mm	1.1168	33.8 - 35.8mm	15.6 ± 0.5	1.05 ± 0.03	13.0 ± 0.5
Benson & Hedges 100's	F. SP.	100mm	1.1123	32.8 - 35.5mm	16.4 ± 0.4	1.09 ± 0.03	14.3 ± 0.4
Benson & Hedges 100's	F. M. SP.	100mm	1.1304	33.9 - 35.4mm	15.8 ± 0.4	1.06 ± 0.03	14.6 ± 0.4
Benson & Hedges Lights 100's	F. HP.	100mm	1.0905	37.9 - 40.0mm	10.4 ± 0.3	0.74 ± 0.02	11.3 ± 0.4
Benson & Hedges Lights 100's	F. M. HP.	100mm	1.1176	38.5 - 39.6mm	9.8 ± 0.3	0.72 ± 0.02	10.6 ± 0.3
Benson & Hedges Lights 100's	F. SP.	100mm	1.1423	37.9 - 39.9mm	10.3 ± 0.2	0.75 ± 0.02	12.9 ± 0.4
Benson & Hedges Lights 100's	F. M. SP.	100mm	1.1225	37.5 - 40.0mm	9.9 ± 0.5	0.73 ± 0.03	11.9 ± 0.5
Bull Durham	F. SP.	85mm	1.2040	26.0 - 27.1mm	29.1 ± 0.6	1.94 ± 0.05	23.8 ± 0.6
Cambridge	F. HP.	85mm	0.8695	38.3 - 39.5mm	**	**	**
Cambridge	F. SP.	85mm	0.8534	34.4 - 35.2mm	**	0.11 ± 0.01	1.1 ± 0.1
Cambridge 100's	F. SP.	100mm	0.9935	37.5 - 40.3mm	2.9 ± 0.3	0.31 ± 0.02	4.4 ± 0.3
Camel	Reg. HF. SP.	70mm	0.8755	23mm	20.6 ± 0.6	1.42 ± 0.03	12.5 ± 0.5
Camel	F. SP.	85mm	0.9712	26.9 - 28.8mm	16.0 ± 0.5	1.18 ± 0.03	14.0 ± 0.7
Camel Lights	F. HP.	80mm	0.9109	29.0 - 30.7mm	6.5 ± 0.3	0.63 ± 0.03	6.6 ± 0.4
Camel Lights	F. SP.	85mm	0.9594	32.1 - 33.6mm	7.7 ± 0.4	0.71 ± 0.03	10.1 ± 0.5
Camel Lights	F. SP.	100mm	1.1467	33.6 - 37.6mm	11.6 ± 0.4	0.86 ± 0.05	14.5 ± 0.5
Carlton	F. HP.	85mm	0.8161	36.8 - 40.0mm	**	**	**
Carlton	F. SP.	85mm	0.8172	32.0 - 35.0mm	**	0.11 ± 0.01	1.3 ± 0.1
Carlton	F. M. SP.	85mm	0.7916	31.9 - 34.2mm	**	0.08 ± 0.01	0.8 ± 0.1
Carlton 100's	F. HP.	100mm	1.0042	36.3 - 39.2mm	**	0.08 ± 0.01	0.6 ± 0.1
Carlton 100's	F. SP.	100mm	0.9357	33.4 - 37.3mm	3.6 ± 0.4	0.37 ± 0.02	5.6 ± 0.3
Carlton 100's	F. M. SP.	100mm	0.9306	33.3 - 36.5mm	3.1 ± 0.3	0.34 ± 0.02	4.4 ± 0.4
Chesterfield	Reg. HF. SP.	70mm	0.8647	23mm	20.6 ± 0.5	1.32 ± 0.03	13.2 ± 0.5
Chesterfield	HF. SP.	85mm	1.0443	23mm	24.8 ± 0.9	1.66 ± 0.04	16.1 ± 0.6
Chesterfield	F. SP.	85mm	0.9023	27.6 - 29.0mm	14.7 ± 0.4	1.04 ± 0.03	15.1 ± 0.4
Chesterfield 101	F. SP.	101mm	1.0558	34.2 - 38.2mm	15.3 ± 0.6	1.11 ± 0.06	16.3 ± 0.6
Decade	F. SP.	85mm	0.8530	31.1 - 34.1mm	4.6 ± 0.3	0.44 ± 0.01	4.4 ± 0.2
Decade	F. M. SP.	85mm	0.8598	31.8 - 33.9mm	4.6 ± 0.2	0.44 ± 0.02	4.2 ± 0.3
Decade 100's	F. SP.	100mm	0.9571	37.4 - 38.8mm	8.3 ± 0.3	0.82 ± 0.01	7.3 ± 0.2
Doral II	F. SP.	85mm	1.0752	35.5 - 37.4mm	3.6 ± 0.3	0.38 ± 0.02	3.2 ± 0.2
Doral II	F. M. SP.	85mm	1.0438	33.7 - 37.5mm	3.8 ± 0.3	0.41 ± 0.03	3.5 ± 0.3

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1 TPM dry (tar) - milligrams total particulate matter less nicotine and water.
2 Milligrams total alkaloids reported as nicotine.
3 F-filter; HF-non-filter; M-menthol; HP-hard pack; SP-soft pack; mm-millimeter.
4 Average weight reported in grams.
5 Range used in butt length because of variance of overwrap.
* Tolerance shown is twice the standard deviation.
** Below the sensitivity of the method.

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TAR(1), NICOTINE(2) AND CARBON MONOXIDE OF TWO-HUNDRED (200) DOMESTIC CIGARETTES

BRAND	TYPE(3)		AVERAGE WEIGHT(4)	BUTT LENGTH(5)	TPM DRY(1)6	NICOTINE6	CARBON MONOXIDE
Dalmarlar	F. HP.	85mm	0.9880	28.1 - 29.5mm	15.4 ± 0.5	1.04 ± 0.03	17.0 ± 0.5
English Ovals	Reg. NF. HP.	70mm	0.9363	23mm	22.7 ± 0.7	1.66 ± 0.04	11.9 ± 0.4
English Ovals	NF. HP.	85mm	1.1481	23mm	28.2 ± 1.0	2.14 ± 0.11	14.5 ± 0.6
Eve 100's	F. SP.	100mm	1.0201	34.2 - 38.1mm	14.9 ± 0.5	1.16 ± 0.03	14.4 ± 0.4
Eve 100's	F. M. SP.	100mm	1.0457	31.6 - 35.9mm	14.8 ± 0.4	1.17 ± 0.02	14.5 ± 0.4
Eve Lights 120's	F. HP.	120mm	0.9942	36.6 - 38.8mm	14.0 ± 0.6	1.14 ± 0.03	12.6 ± 0.9
Eve Lights 120's	F. M. HP.	120mm	1.0005	36.8 - 38.9mm	13.7 ± 0.5	1.11 ± 0.03	12.3 ± 0.5
Galaxy	F. SP.	85mm	1.0681	32.4 - 33.2mm	14.2 ± 0.5	0.95 ± 0.02	13.4 ± 1.3
Golden Lights	F. SP.	85mm	0.8998	31.2 - 35.7mm	7.3 ± 0.3	0.71 ± 0.03	8.1 ± 0.5
Golden Lights	F. M. SP.	85mm	0.8827	33.7 - 35.8mm	7.7 ± 0.4	0.71 ± 0.03	8.0 ± 0.5
Golden Lights 100's	F. SP.	100mm	1.0318	36.5 - 38.8mm	8.4 ± 0.5	0.81 ± 0.04	8.9 ± 0.6
Golden Lights 100's	F. M. SP.	100mm	1.0405	36.2 - 39.1mm	7.1 ± 0.5	0.71 ± 0.04	6.9 ± 0.6
Half & Half	F. SP.	85mm	1.1174	26.1 - 28.4mm	16.2 ± 0.6	1.33 ± 0.05	14.6 ± 0.5
Herbert Tareyton	NF. SP.	85mm	1.1430	23mm	27.2 ± 0.7	1.75 ± 0.04	19.4 ± 0.6
Hi-Lite 100's	F. HP.	100mm	1.1103	33.6 - 36.7mm	12.3 ± 0.4	0.89 ± 0.02	13.1 ± 0.5
Iceberg 100's	F. M. SP.	100mm	0.9585	33.4 - 38.0mm	2.3 ± 0.3	0.26 ± 0.02	3.6 ± 0.2
Kent	F. HP.	80mm	0.8981	27.1 - 29.0mm	12.4 ± 0.5	0.97 ± 0.03	12.2 ± 0.4
Kent	F. SP.	85mm	0.9302	26.1 - 29.6mm	12.5 ± 0.5	1.00 ± 0.03	12.6 ± 0.5
Kent III	F. SP.	85mm	0.8401	33.6 - 36.0mm	2.3 ± 0.2	0.32 ± 0.01	2.9 ± 0.2
Kent 100's	F. SP.	100mm	1.0632	33.4 - 36.6mm	14.4 ± 0.4	1.18 ± 0.03	13.5 ± 0.5
Kent 100's	F. M. SP.	100mm	1.0663	33.8 - 36.3mm	14.6 ± 0.3	1.25 ± 0.04	13.6 ± 0.6
Kent III 100's	F. SP.	100mm	0.9903	37.1 - 38.6mm	4.4 ± 0.3	0.50 ± 0.02	6.6 ± 0.3
Kool	Reg. NF. M. SP.	70mm	0.8469	23mm	19.2 ± 0.5	1.13 ± 0.05	14.4 ± 0.3
Kool	F. M. HP.	80mm	0.9406	24.1 - 27.3mm	16.3 ± 0.4	1.24 ± 0.03	16.3 ± 0.3
Kool	F. M. SP.	85mm	0.9483	28.4 - 29.4mm	15.6 ± 0.3	1.15 ± 0.02	16.5 ± 0.4
Kool Milds	F. M. SP.	85mm	0.9311	32.4 - 33.2mm	11.0 ± 0.2	0.87 ± 0.02	12.3 ± 0.4
Kool Super Lights	F. M. SP.	85mm	0.9282	31.2 - 33.9mm	6.1 ± 0.3	0.53 ± 0.02	6.9 ± 0.3
Kool Super Longs 100's	F. M. SP.	100mm	1.0894	34.4 - 35.9mm	14.2 ± 0.3	1.04 ± 0.02	16.0 ± 0.6
Kool Milds 100's	F. M. SP.	100mm	1.1530	37.9 - 40.0mm	12.0 ± 0.3	0.99 ± 0.03	12.8 ± 0.3
Kool Super Lights 100's	F. M. SP.	100mm	1.1438	37.5 - 40.3mm	9.5 ± 0.5	0.72 ± 0.02	12.1 ± 0.5
L & M	F. HP.	80mm	0.8690	26.2 - 27.6mm	14.6 ± 0.4	1.01 ± 0.04	14.5 ± 0.3
L & M	F. SP.	85mm	0.8991	28.0 - 29.5mm	14.5 ± 0.5	1.00 ± 0.05	14.8 ± 0.5
L & M Lights	F. SP.	85mm	0.8513	32.0 - 33.6mm	7.8 ± 0.3	0.75 ± 0.02	6.5 ± 0.3
L & M 100's	F. SP.	100mm	1.0405	34.3 - 38.4mm	14.8 ± 0.5	1.08 ± 0.04	15.6 ± 0.7
L & M Lights 100's	F. SP.	100mm	0.9651	36.2 - 38.8mm	7.3 ± 0.3	0.74 ± 0.03	5.6 ± 0.2
L & M Lights 100's	F. M. SP.	100mm	0.9544	36.6 - 38.4mm	7.4 ± 0.3	0.77 ± 0.04	5.7 ± 0.2
Lark	F. SP.	85mm	1.0083	26.4 - 28.3mm	14.4 ± 0.5	1.10 ± 0.03	14.0 ± 0.5
Lark Lights	F. SP.	85mm	0.8157	32.1 - 33.6mm	7.2 ± 0.3	0.61 ± 0.01	7.4 ± 0.2
Lark 100's	F. SP.	100mm	1.1471	32.0 - 34.0mm	15.8 ± 0.5	1.21 ± 0.03	15.0 ± 0.5
Lark Lights 100's	F. SP.	100mm	0.9723	37.4 - 38.5mm	7.0 ± 0.5	0.61 ± 0.02	7.1 ± 0.4
Long Johns 120's	F. SP.	120mm	1.2306	37.0 - 39.0mm	17.6 ± 0.8	1.40 ± 0.06	18.5 ± 0.8
Long Johns 120's	F. M. SP.	120mm	1.1790	36.4 - 39.1mm	15.5 ± 0.8	1.14 ± 0.06	16.7 ± 1.0
Lucky Strike	Reg. NF. SP.	70mm	0.9124	23mm	24.0 ± 0.6	1.46 ± 0.04	17.0 ± 0.7
Lucky Tan	F. SP.	85mm	0.9907	31.2 - 34.4mm	7.6 ± 0.4	0.63 ± 0.03	9.3 ± 0.5

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4 Average weight reported in grams.
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BRAND	TYPE(3)		AVERAGE WEIGHT(4)	BUTT LENGTH(5)	TPM DRY(1)*	NICOTINE*	CARBON MONOXIDE
Lucky 100's	F. SP.	100mm	0.9533	33.3 - 35.7mm	3.0 ± 0.3	0.33 ± 0.04	4.5 ± 0.3
Marlboro	F. HP.	80mm	0.9343	25.0 - 26.2mm	16.0 ± 0.5	1.04 ± 0.02	14.5 ± 0.5
Marlboro	F. M. HP.	80mm	0.9171	25.4 - 26.0mm	14.5 ± 0.5	0.90 ± 0.03	13.7 ± 0.4
Marlboro	F. SP.	85mm	0.9894	26.6 - 28.7mm	16.5 ± 0.5	1.05 ± 0.03	15.2 ± 0.5
Marlboro	F. M. SP.	85mm	0.9789	28.0 - 29.2mm	13.7 ± 0.4	0.87 ± 0.02	13.5 ± 0.4
Marlboro Lights	F. HP.	85mm	0.9738	32.3 - 35.0mm	10.3 ± 0.3	0.73 ± 0.01	11.9 ± 0.4
Marlboro Lights	F. SP.	85mm	0.9912	32.9 - 34.9mm	10.7 ± 0.3	0.75 ± 0.02	12.4 ± 0.6
Marlboro 100's	F. HP.	100mm	1.1235	33.0 - 35.0mm	16.1 ± 0.4	1.07 ± 0.03	16.0 ± 0.4
Marlboro 100's	F. SP.	100mm	1.1436	33.8 - 35.4mm	16.3 ± 0.5	1.08 ± 0.03	16.2 ± 0.5
Marlboro Lights 100's	F. SP.	100mm	1.1368	38.4 - 39.5mm	10.2 ± 0.4	0.74 ± 0.02	12.4 ± 0.5
Max 120's	F. SP.	120mm	1.0278	36.1 - 38.8mm	18.7 ± 0.4	1.56 ± 0.05	17.6 ± 0.4
Max 120's	F. M. SP.	120mm	1.0013	36.6 - 40.1mm	18.9 ± 0.3	1.57 ± 0.06	17.8 ± 0.5
Merit	F. SP.	85mm	0.9822	34.4 - 36.1mm	7.0 ± 0.5	0.51 ± 0.02	10.4 ± 0.6
Merit	F. M. SP.	85mm	0.9841	33.6 - 36.0mm	6.9 ± 0.3	0.51 ± 0.01	9.7 ± 0.4
Merit Ultra Lights	F. SP.	85mm	0.9197	34.5 - 35.7mm	2.9 ± 0.3	0.32 ± 0.02	3.8 ± 0.1
Merit Ultra Lights	F. M. SP.	85mm	0.9188	34.5 - 35.9mm	3.0 ± 0.2	0.29 ± 0.01	3.6 ± 0.2
Merit 100's	F. SP.	100mm	1.1230	38.0 - 39.9mm	9.6 ± 0.4	0.70 ± 0.01	12.2 ± 0.5
Merit 100's	F. M. SP.	100mm	1.1269	37.8 - 40.9mm	9.1 ± 0.4	0.68 ± 0.02	11.5 ± 0.5
Montclair	F. M. SP.	85mm	0.9139	26.2 - 27.9mm	14.4 ± 0.4	1.00 ± 0.03	15.9 ± 0.4
More 120's	F. SP.	120mm	1.0423	33.2 - 42.7mm	18.1 ± 0.9	1.44 ± 0.06	20.4 ± 0.8
More 120's	F. M. SP.	120mm	1.0510	36.1 - 42.4mm	18.4 ± 0.8	1.52 ± 0.05	19.7 ± 1.1
Multifilter	F. SP.	85mm	1.1542	32.4 - 33.8mm	12.0 ± 0.3	0.83 ± 0.02	11.3 ± 0.4
Multifilter	F. M. SP.	85mm	1.1343	31.9 - 33.6mm	11.6 ± 0.4	0.80 ± 0.02	10.7 ± 0.3
Newport	F. M. HP.	80mm	0.8758	27.6 - 28.8mm	15.7 ± 0.5	1.22 ± 0.03	16.1 ± 0.4
Newport	F. M. SP.	85mm	0.9284	27.0 - 29.2mm	17.5 ± 0.4	1.34 ± 0.03	18.0 ± 0.7
Newport Lights	F. M. HP.	80mm	0.8458	32.0 - 34.1mm	8.2 ± 0.4	0.73 ± 0.03	9.8 ± 0.5
Newport Lights	F. M. SP.	85mm	0.8810	34.4 - 35.3mm	8.2 ± 0.4	0.78 ± 0.03	9.6 ± 0.6
Newport 100's	F. M. SP.	100mm	1.0615	33.2 - 37.4mm	19.8 ± 0.4	1.57 ± 0.04	19.6 ± 0.6
Now	F. HP.	80mm	0.7082	32.2 - 35.4mm	**	0.05 ± 0.01	**
Now	F. SP.	85mm	0.8301	32.0 - 33.6mm	1.7 ± 0.1	0.22 ± 0.01	2.8 ± 0.2
Now	F. M. SP.	85mm	0.8249	32.2 - 33.7mm	1.5 ± 0.3	0.20 ± 0.01	2.5 ± 0.2
Now 100's	F. HP.	100mm	0.6888	36.5 - 38.6mm	**	**	**
Now 100's	F. SP.	100mm	0.9686	36.6 - 38.0mm	1.1 ± 0.2	0.19 ± 0.02	1.2 ± 0.1
Now 100's	F. M. SP.	100mm	1.0041	36.2 - 39.0mm	1.2 ± 0.2	0.21 ± 0.02	1.3 ± 0.2
Oasis	F. M. SP.	85mm	0.9081	27.0 - 28.5mm	14.9 ± 0.3	1.03 ± 0.03	14.9 ± 0.3
Old Gold Straight	HF. SF.	85mm	1.0076	23mm	26.4 ± 0.7	1.79 ± 0.04	17.1 ± 0.5
Old Gold Filters	F. SP.	85mm	0.9329	27.3 - 31.8mm	17.0 ± 0.5	1.34 ± 0.01	18.7 ± 0.6
Old Gold Lights	F. SP.	85mm	0.8941	33.4 - 37.7mm	9.6 ± 0.3	0.92 ± 0.02	10.5 ± 0.4
Old Gold Filter 100's	F. SP.	100mm	1.0405	33.1 - 37.1mm	19.7 ± 0.5	1.55 ± 0.04	20.3 ± 0.6
Pall Mall	HF. SP.	85mm	1.0857	23mm	24.1 ± 0.4	1.52 ± 0.01	16.7 ± 0.6
Pall Mall	F. SP.	85mm	1.0058	25.2 - 28.0mm	17.6 ± 0.4	1.21 ± 0.03	18.1 ± 0.3
Pall Mall Extra Light	F. SP.	85mm	0.9934	31.1 - 35.0mm	6.0 ± 0.3	0.54 ± 0.04	6.4 ± 0.4
Pall Mall 100's	F. SP.	100mm	1.1572	34.2 - 35.4mm	16.6 ± 0.6	1.30 ± 0.05	17.2 ± 0.8
Pall Mall Light 100's	F. SP.	100mm	1.1104	36.6 - 38.9mm	9.2 ± 0.4	0.83 ± 0.03	8.7 ± 0.4

1 TPM dry (tar) - milligrams total particulate matter less nicotine and water.
2 Milligrams total alkaloids reported as nicotine.
3 F-filter; HF-non-filter; M-menthol; HP-hard pack; SP-soft pack; mm-millimeter.
4 Average weight reported in grams.
5 Range used in butt length because of variance of overwrap.
* Tolerance shown is twice the standard deviation.
** Below the sensitivity of the method.
6 See statement in text concerning Barclay.

2021574844

Source: https://www.industrydocuments.ucsf.edu/docs/mshm0000

TAR(1), NICOTINE(2) AND CARBON MONOXIDE OF TWO-HUNDRED (200) DOMESTIC CIGARETTES

BRAND	TYPE(3)		AVERAGE WEIGHT(4)	BUTT LENGTH(5)	TPM DRY(1)*	NICOTINE*	CARBON MONOXIDE
Pall Mall Light 100's	F. H. SP.	100mm	1.0393	34.0 - 36.0mm	12.5 ± 0.3	1.05 ± 0.03	12.0 ± 0.4
Parliament Lights	F. HP.	80mm	0.9602	31.7 - 34.2mm	9.0 ± 0.3	0.64 ± 0.02	10.3 ± 0.3
Parliament Lights	F. SP.	85mm	1.0072	31.8 - 33.8mm	8.9 ± 0.4	0.64 ± 0.02	10.2 ± 0.4
Parliament Lights 100's	F. SP.	100mm	1.2528	38.0 - 41.8mm	11.8 ± 0.4	0.87 ± 0.02	11.2 ± 0.4
Philip Morris	Reg. MF. SP.	70mm	0.8992	23mm	21.3 ± 0.7	1.41 ± 0.04	12.3 ± 0.5
Philip Morris Commander	MF. SP.	85mm	1.0706	23mm	26.6 ± 0.5	1.72 ± 0.03	15.2 ± 0.4
Philip Morris International 100's	F. HP.	100mm	1.1244	34.4 - 35.3mm	16.5 ± 0.4	1.08 ± 0.02	15.7 ± 0.4
Philip Morris International 100's	F. H. HP.	100mm	1.1140	34.0 - 35.4mm	16.2 ± 0.4	1.02 ± 0.03	15.1 ± 0.4
Picayune	Reg. MF. SP.	70mm	0.8751	23mm	19.3 ± 0.8	1.38 ± 0.05	15.0 ± 1.0
Players	Reg. MF. HP.	70mm	1.0526	23mm	24.1 ± 0.4	1.93 ± 0.05	14.1 ± 0.4
Raleigh	MF. SP.	85mm	1.0543	23mm	22.5 ± 0.5	1.33 ± 0.03	16.9 ± 0.6
Raleigh	F. SP.	85mm	0.9814	27.6 - 30.0mm	15.4 ± 0.4	1.01 ± 0.03	17.2 ± 0.5
Raleigh Lights	F. SP.	85mm	0.9843	31.7 - 33.6mm	8.3 ± 0.3	0.72 ± 0.02	10.6 ± 0.4
Raleigh 100's	F. SP.	100mm	1.1471	33.2 - 35.6mm	15.6 ± 0.5	1.11 ± 0.04	14.7 ± 0.6
Raleigh Lights 100's	F. SP.	100mm	1.1813	37.6 - 39.7mm	9.4 ± 0.4	0.78 ± 0.04	12.7 ± 0.6
St. Moritz 100's	F. SP.	100mm	1.0602	35.3 - 37.6mm	13.5 ± 0.5	1.07 ± 0.04	13.4 ± 0.4
St. Moritz 100's	F. H. SP.	100mm	1.0568	35.0 - 37.6mm	14.4 ± 0.4	1.11 ± 0.03	14.3 ± 0.4
Salem	F. H. SP.	85mm	0.9976	27.0 - 28.9mm	14.1 ± 0.5	1.06 ± 0.03	13.6 ± 0.4
Salem Lights	F. H. SP.	85mm	0.9673	32.4 - 34.6mm	7.8 ± 0.4	0.60 ± 0.04	9.6 ± 0.4
Salem Ultra	F. H. SP.	85mm	0.9358	31.9 - 33.5mm	3.3 ± 0.3	0.38 ± 0.05	3.8 ± 0.3
Salem 100's	F. H. SP.	100mm	1.1663	33.4 - 35.6mm	14.6 ± 0.3	1.15 ± 0.04	13.6 ± 0.4
Salem Lights 100's	F. H. SP.	100mm	1.1540	34.3 - 36.0mm	9.3 ± 0.3	0.78 ± 0.03	11.2 ± 0.4
Salem Ultra 100's	F. H. SP.	100mm	1.1224	36.5 - 38.0mm	3.9 ± 0.2	0.41 ± 0.02	5.3 ± 0.2
Saratoga 120's	F. HP.	120mm	1.1080	36.1 - 39.9mm	14.9 ± 0.5	1.03 ± 0.01	16.0 ± 0.6
Saratoga 120's	F. H. HP.	120mm	1.1163	37.4 - 39.0mm	14.8 ± 0.5	1.03 ± 0.01	15.6 ± 0.6
Silva Thins 100's	F. SP.	100mm	0.9769	33.5 - 36.0mm	11.4 ± 0.4	1.04 ± 0.03	9.3 ± 0.3
Silva Thins 100's	F. H. SP.	100mm	0.9879	34.1 - 35.6mm	11.1 ± 0.4	1.02 ± 0.04	9.2 ± 0.4
Spring 100's	F. H. SP.	100mm	1.1027	32.7 - 35.8mm	19.2 ± 0.4	1.11 ± 0.03	17.6 ± 0.5
Tall 120's	F. SP.	120mm	1.2184	35.2 - 39.4mm	17.4 ± 0.6	1.41 ± 0.04	18.6 ± 0.8
Tall 120's	F. H. SP.	120mm	1.2130	36.2 - 39.5mm	16.6 ± 0.6	1.36 ± 0.04	17.1 ± 0.6
Tareyton	F. SP.	85mm	1.0373	25.9 - 28.1mm	14.2 ± 0.5	0.99 ± 0.01	15.3 ± 0.5
Tareyton Lights	F. SP.	85mm	0.9202	32.8 - 37.5mm	4.8 ± 0.4	0.43 ± 0.02	5.3 ± 0.4
Tareyton Ultra Low Tar	F. H. SP.	85mm	0.8999	33.4 - 36.8mm	0.5 ± 0.2	0.13 ± 0.02	0.8 ± 0.1
Tareyton 100's	F. SP.	100mm	1.1827	33.5 - 36.0mm	14.2 ± 0.5	1.05 ± 0.03	16.2 ± 0.6
Tareyton Long Lights 100's	F. SP.	100mm	1.1988	32.6 - 36.7mm	7.0 ± 0.4	0.63 ± 0.02	7.1 ± 0.3
Triumph	F. SP.	85mm	0.8404	34.6 - 35.8mm	2.7 ± 0.3	0.37 ± 0.01	3.0 ± 0.2
Triumph	F. H. SP.	85mm	0.8470	33.7 - 35.9mm	2.2 ± 0.3	0.33 ± 0.02	2.5 ± 0.2
Triumph 100's	F. SP.	100mm	0.9888	36.8 - 38.4mm	4.2 ± 0.2	0.50 ± 0.02	6.0 ± 0.3
Triumph 100's	F. H. SP.	100mm	1.0116	36.9 - 38.7mm	3.8 ± 0.3	0.49 ± 0.05	5.3 ± 0.3
True	F. SP.	85mm	0.8425	32.0 - 33.6mm	4.3 ± 0.3	0.41 ± 0.02	4.9 ± 0.2
True	F. H. SP.	85mm	0.8539	31.9 - 34.3mm	4.4 ± 0.3	0.42 ± 0.03	5.1 ± 0.3
True Ultra One	F. SP.	85mm	0.8565	34.2 - 35.1mm	0.7 ± 0.2	0.18 ± 0.01	1.1 ± 0.1
True 100's	F. SP.	100mm	1.0197	34.1 - 35.6mm	7.1 ± 0.3	0.64 ± 0.02	8.7 ± 0.4
True 100's	F. H. SP.	100mm	0.9898	34.4 - 36.2mm	7.8 ± 0.4	0.63 ± 0.04	9.1 ± 0.4

2021574845

1 TPM dry (tar) - milligrams total particulate matter less nicotine and water.
2 Milligrams total alkaloids reported as nicotine.
3 F-filter; MF-non-filter; M-menthol; HP-hard pack; SP-soft pack; mm-millimeter.
4 Average weight reported in grams.
5 Range used in butt length because of variance of overwrap.
* Tolerance shown is twice the standard deviation.
** Below the sensitivity of the method.
Tar measured by Leaf Commercial Barclay.

Source: https://www.industrydocuments.ucsf.edu/docs/mshm0000

TAR(1), NICOTINE(2) AND CARBON MONOXIDE OF TWO-HUNDRED (200) DOMESTIC CIGARETTES

BRAND	TYPE(3)		AVERAGE WEIGHT(4)	BUTT LENGTH(5)	TPM DRY(1)*	NICOTINE	CARBON MONOXIDE
Vantage	F. SP.	85mm	1.0704	30.7 - 35.4mm	9.8 ± 0.3	0.71 ± 0.02	12.5 ± 0.3
Vantage	F. M. SP.	85mm	1.1119	31.9 - 33.8mm	9.9 ± 0.2	0.73 ± 0.02	14.3 ± 0.4
Vantage Ultra Lights	F. SP.	85mm	1.0063	30.4 - 33.9mm	6.3 ± 0.2	0.54 ± 0.02	9.9 ± 0.3
Vantage 100's	F. SP.	100mm	1.2653	33.4 - 37.0mm	8.3 ± 0.5	0.68 ± 0.02	12.2 ± 0.5
Vantage Ultra Lights 100's	F. SP.	100mm	1.2488	35.5 - 38.4mm	5.1 ± 0.3	0.47 ± 0.02	7.9 ± 0.5
Viceroy	F. SP.	85mm	0.9453	27.9 - 30.9mm	14.6 ± 0.5	0.97 ± 0.04	16.0 ± 0.4
Viceroy Rich Lights	F. SP.	85mm	0.9956	32.0 - 34.5mm	7.9 ± 0.4	0.69 ± 0.03	9.8 ± 0.5
Viceroy Super Long 100's	F. SP.	100mm	1.1316	33.4 - 35.6mm	14.8 ± 0.5	1.09 ± 0.03	16.3 ± 0.7
Viceroy Rich Lights 100's	F. SP.	100mm	1.1537	37.4 - 40.6mm	9.1 ± 0.3	0.77 ± 0.03	11.6 ± 0.5
Virginia Slims 100's	F. SP.	100mm	0.9584	33.8 - 36.0mm	15.1 ± 0.4	1.00 ± 0.02	15.1 ± 0.5
Virginia Slims 100's	F. M. SP.	100mm	0.9632	33.6 - 35.7mm	15.1 ± 0.4	1.00 ± 0.02	14.2 ± 0.5
Virginia Slims Lights 100's	F. HP.	100mm	0.9514	38.1 - 40.0mm	7.5 ± 0.3	0.58 ± 0.01	8.3 ± 0.4
Virginia Slims Lights 100's	F. M. HP.	100mm	0.9949	37.5 - 40.3mm	7.4 ± 0.3	0.58 ± 0.02	8.0 ± 0.2
Winston	F. HP.	80mm	0.9508	24.8 - 26.4mm	16.1 ± 0.4	1.11 ± 0.03	15.0 ± 0.5
Winston	F. SP.	85mm	0.9831	26.9 - 28.6mm	15.4 ± 0.5	1.10 ± 0.03	15.5 ± 0.5
Winston Lights	F. SP.	85mm	0.9955	29.8 - 35.6mm	10.8 ± 0.6	0.85 ± 0.03	11.8 ± 0.4
Winston Ultra	F. SP.	85mm	0.8272	32.2 - 35.9mm	3.6 ± 0.2	0.41 ± 0.03	4.9 ± 0.4
Winston 100's	F. SP.	100mm	1.1427	33.1 - 35.6mm	13.7 ± 0.3	1.02 ± 0.03	14.3 ± 0.4
Winston Lights 100's	F. SP.	100mm	1.1289	36.2 - 37.6mm	11.6 ± 0.6	0.89 ± 0.03	14.4 ± 0.5
Winston Ultra 100's	F. SP.	100mm	1.0698	36.8 - 37.8mm	4.7 ± 0.5	0.46 ± 0.03	7.1 ± 0.7
Winston International 100's	F. HP.	100mm	1.0756	31.0 - 32.2mm	17.9 ± 0.5	1.41 ± 0.04	16.3 ± 0.6
Additional Cigarettes Smoked Separately							
Carlton 100's	F. M. HP.	100mm	0.9108	37.6 - 38.5mm	**	0.12 ± 0.01	0.8 ± 0.1
Carlton 120's	F. SP.	120mm	0.9624	37.0 - 38.6mm	6.2 ± 0.3	0.62 ± 0.02	5.9 ± 0.3
Carlton 120's	F. M. SP.	120mm	1.0191	37.2 - 39.1mm	5.0 ± 0.3	0.53 ± 0.02	4.9 ± 0.3

2021574846

1 TPM dry (tar) - milligrams total particulate matter less nicotine and water.
2 Milligrams total alkaloids reported as nicotine.
3 F-filter; NF-non-filter; M-menthol; HP-hard pack; SP-soft pack; mm-millimeter.
4 Average weight reported in grams.
5 Range used in butt length because of variance of overwrap.
* Tolerance shown is twice the standard deviation.
** Below the sensitivity of the method.

Source: https://www.industrydocuments.ucsf.edu/docs/mshm0000

Tar[1], Nicotine and Carbon Monoxide Content of Smoke : 1984
Varieties of Domestic Cigarettes
(ranked in increasing order of tar values)

BRAND	TYPE	TAR (mg/cig)	NICOTINE (mg/cig)	CARBON MONOXIDE (mg/cig)
Benson & Hedges 2/	reg. size, filter, (hard pack)	<0.5	0.1	1
Cambridge 2/	king size, filter, (hard pack)	<0.5	<0.05	<0.5
Cambridge 2/	king size, filter	<0.5	0.1	1
Carlton 2/	king size, filter, (hard pack)	<0.5	<0.05	<0.5
Carlton 2/	king size, filter	<0.5	0.1	1
Carlton 2/	king size, filter, menthol	<0.5	0.1	1
Carlton 100's 2/	100mm, filter, (hard pack)	<0.5	0.1	1
Carlton 100's 2/	100mm, filter, menthol, (hard pack)	<0.5	0.1	1
Now 2/	king size, filter, (hard pack)	<0.5	0.1	<0.5
Now 100's 2/	100mm, filter, (hard pack)	<0.5	<0.05	<0.5
Tareyton Ultra Low Tar	king size, filter, menthol	1	0.1	1
Barclay 3/	king size, filter, (hard pack)	1	0.1	1
True Ultra One	king size, filter	1	0.2	1
Barclay 3/	king size, filter	1	0.2	1
Now 100's	100mm, filter	1	0.2	1
Now 100's	100mm, filter, menthol	1	0.2	1
Now	king size, filter, menthol	2	0.2	1
Now	king size, filter	2	0.2	3
Barclay 100's 3/	100mm, filter	2	0.3	2
Triumph	king size, filter, menthol	2	0.3	3
Kent III	king size, filter	2	0.3	3
Iceberg 100's	100mm, filter, menthol	2	0.3	4
Triumph	king size, filter	3	0.4	3
Merit Ultra Lights	king size, filter	3	0.3	4
Cambridge 100's	100mm, filter	3	0.3	5
Merit Ultra Lights	king size, filter, menthol	3	0.3	4
Lucky 100's	100mm, filter	3	0.3	4
Carlton 100's	100mm, filter, menthol	3	0.3	4
Salem Ultra	king size, filter, menthol	3	0.4	4
Doral II	king size, filter	4	0.4	3
Carlton 100's	100mm, filter	4	0.4	6
Winston Ultra	king size, filter	4	0.4	5
Triumph 100's	100mm, filter, menthol	4	0.5	5
Doral II	king size, filter, menthol	4	0.4	3
Salem Ultra 100's	100mm, filter, menthol	4	0.4	5
Triumph 100's	100mm, filter	4	0.5	6
True	king size, filter	4	0.4	5
True	king size, filter, menthol	4	0.4	5
Kent III 100's	100mm, filter	4	0.5	7
Decade	king size, filter, menthol	5	0.4	6
Decade	king size, filter	5	0.4	6
Winston Ultra 100's	100mm filter	5	0.5	7
Tareyton Lights	king size, filter	5	0.4	5
Carlton 120's	120mm, filter, menthol	5	0.5	5

2021574847

1 TPM dry (tar) - milligrams total particulate matter less nicotine and water.
2 All scores below 0.5 mg. "tar," 0.05 mg. nicotine and 0.5 mg. carbon monoxide reported as <0.5, <0.05, <0.5, respectively.
3 See statement in text concerning Barclay.

Source: https://www.industrydocuments.ucsf.edu/docs/mshm0000

Tar[1], Nicotine and Carbon Monoxide ...tent of Two-Hundred (200)
Varieties of Domestic Cigarettes
(shown in increasing order of tar values)

BRAND	TYPE	TAR (mg/cig)	NICOTINE (mg/cig)	CARBON MONOXIDE (mg/cig)
Vantage Ultra Lights 100's	100mm, filter	5	0.5	8
Pall Mall Extra Light	king size, filter	6	0.5	6
Kool Super Lights	king size, filter, menthol	6	0.5	7
Carlton 120's	120mm, filter	6	0.6	6
Vantage Ultra Lights	king size, filter	6	0.5	9
Camel Lights	king size, filter, (hard pack)	6	0.6	7
Merit	king size, filter, menthol	7	0.5	10
Tareyton Long Lights 100's	100mm, filter	7	0.6	7
Merit	king size, filter	7	0.5	10
Lark Lights 100's	100mm, filter	7	0.6	7
Golden Lights 100's	100mm, filter, menthol	7	0.7	7
Lark Lights	king size, filter	7	0.6	7
L & M Lights 100's	100mm, filter	7	0.7	6
True 100's	100mm, filter	7	0.6	9
Golden Lights	king size, filter	7	0.7	8
Virginia Slims Lights 100's	100mm, filter, menthol, (hard pack)	7	0.6	8
Arctic Lights 100's	100mm, filter, menthol	7	0.6	9
L & M Lights 100's	100mm, filter, menthol	7	0.8	6
Virginia Slims Lights 100's	100mm, filter, (hard pack)	7	0.6	8
American Lights 120's	120mm, filter, menthol	8	0.7	8
Arctic Lights	king size, filter, menthol	8	0.6	9
Lucky Ten	king size, filter	8	0.6	9
Golden Lights	king size, filter, menthol	8	0.7	8
Camel Lights	king size, filter	8	0.7	10
American Lights 120's	120mm, filter	8	0.7	9
L & M Lights	king size, filter	8	0.7	7
Salem Lights	king size, filter, menthol	8	0.6	10
True 100's	100mm, filter, menthol	8	0.6	9
Viceroy Rich Lights	king size, filter	8	0.7	10
Belair	king size, filter, menthol	8	0.7	9
Newport Lights	king size, filter, menthol, (hard pack)	8	0.7	10
Newport Lights	king size, filter, menthol	8	0.8	10
Vantage 100's	100mm, filter	8	0.7	12
Decade 100's	100mm, filter	8	0.8	7
Raleigh Lights	king size, filter	8	0.7	11
Golden Lights 100's	100mm, filter	8	0.8	9
Belair 100's	100mm, filter, menthol	8	0.6	10
Parliament Lights	king size, filter	9	0.6	10
Parliament Lights	king size, filter, (hard pack)	9	0.6	10
Vantage	king size, filter	9	0.7	13
Merit 100's	100mm, filter, menthol	9	0.7	11
Viceroy Rich Lights 100's	100mm, filter	9	0.8	12
Pall Mall Light 100's	100mm, filter	9	0.8	9
Salem Lights 100's	100mm, filter, menthol	9	0.8	11

2021574848

1 Tar day (tar) - milligrams total particulate matter less nicotine and water.
2 All scores below 0.5 mg. "tar," 0.05 mg. nicotine and 0.5 mg. carbon monoxide reported as <0.5, <0.05, <0.5, respectively.
3 See statement in text concerning Barclay.

Source: https://www.industrydocuments.ucsf.edu/docs/mshm0000

Tar[1], Nicotine and Carbon Monoxide Content of Two-Hundred (200) Varieties of Domestic Cigarettes (shown in increasing order of tar values)

BRAND	TYPE	TAR (mg/cig)	NICOTINE (mg/cig)	CARBON MONOXIDE (mg/cig)
Raleigh Lights 100's	100mm, filter	9	0.6	13
Kool Super Lights 100's	100mm, filter, menthol	9	0.7	12
Old Gold Lights	king size, filter	10	0.9	10
Merit 100's	100mm, filter	10	0.7	12
Benson & Hedges Lights 100's	100mm, filter, menthol, (hard pack)	10	0.7	11
Vantage	king size, filter, menthol	10	0.7	14
Benson & Hedges Lights 100's	100mm, filter, menthol	10	0.7	12
Marlboro Lights 100's	100mm, filter	10	0.7	12
Marlboro Lights	king size, filter, (hard pack)	10	0.7	12
Benson & Hedges Lights 100's	100mm, filter	10	0.7	13
Benson & Hedges Lights 100's	100mm, filter, (hard pack)	11	0.7	11
Marlboro Lights	king size, filter	11	0.7	12
Winston Lights	king size, filter	11	0.9	11
Kool Milds	king size, filter, menthol	11	0.9	12
Silva Thins 100's	100mm, filter, menthol	11	1.0	9
Silva Thins 100's	100mm, filter	11	1.0	9
Camel Lights 100's	100mm, filter	12	0.9	15
Multifilter	king size, filter, menthol	12	0.8	11
Winston Lights 100's	100mm, filter	12	0.9	14
Parliament Lights 100's	100mm, filter	12	0.9	11
Kool Milds 100's	100mm, filter, menthol	12	1.0	13
Multifilter	king size, filter	12	0.8	11
Ml-Lite 100's	100mm, filter, (hard pack)	12	0.9	13
Kent	king size, filter, (hard pack)	12	1.0	12
Pall Mall Light 100's	100mm, filter, menthol	12	1.1	12
Kent	king size, filter	13	1.0	13
St. Moritz 100's	100mm, filter	14	1.1	13
Winston 100's	100mm, filter	14	1.0	14
Marlboro	king size, filter, menthol	14	0.9	14
Eve Lights 120's	120mm, filter, menthol, (hard pack)	14	1.1	12
Alpine	king size, filter, menthol	14	0.9	13
Eve Lights 120's	120mm, filter, (hard pack)	14	1.1	13
Salem	king size, filter, menthol	14	1.1	14
Tareyton	king size, filter	14	1.0	15
Tareyton 100's	100mm, filter	14	1.1	16
Kool Super Longs 100's	100mm, filter, menthol	14	1.0	16
Galaxy	king size, filter	14	1.0	13
Kent 100's	100mm, filter	14	1.2	13
Montclair	king size, filter, menthol	14	1.0	16
St. Moritz 100's	100mm, filter, menthol	14	1.1	14
Lark	king size, filter	14	1.1	14
L & M	king size, filter	14	1.0	15
Marlboro	king size, filter, menthol, (hard pack)	15	0.9	14
Viceroy	king size, filter	15	1.0	16

2021574849

1 TPM dry (tar) - milligrams total particulate matter less nicotine and water.
2 All scores below 0.5 mg. "tar," 0.05 mg. nicotine and 0.5 mg. carbon monoxide reported as <0.5, <0.05, <0.5, respectively.
3 See statement in text concerning Barclay.

Source: https://www.industrydocuments.ucsf.edu/docs/mshm0000

Tar[1], Nicotine and Carbon Monoxide Content of Two-Hundred (200) Varieties of Domestic Cigarettes
(shown in increasing order of tar values)

BRAND	TYPE	TAR (mg/cig)	NICOTINE (mg/cig)	CARBON MONOXIDE (mg/cig)
Salem 100's	100mm, filter, menthol	15	1.1	14
Kent 100's	100mm, filter, menthol	15	1.2	14
L & M	king size, filter, (hard pack)	15	1.0	14
Chesterfield	king size, filter	15	1.0	15
Viceroy Super Longs 100's	100mm, filter	15	1.1	16
Saratoga 120's	120mm, filter, menthol, (hard pack)	15	1.0	14
Eve 100's	100mm, filter, menthol	15	1.2	14
L & M 100's	100mm, filter	15	1.1	16
Benson & Hedges	king size, filter, (hard pack)	15	1.2	12
Oasis	king size, filter, menthol	15	1.0	15
Eve 100's	100mm, filter	15	1.2	14
Saratoga 120's	102mm, filter, (hard pack)	15	1.0	16
Virginia Slims 100's	100mm, filter	15	1.0	15
Virginia Slims 100's	100mm, filter, menthol	15	1.0	14
Chesterfield 101	101mm, filter	15	1.1	16
Dutchmaster	king size, filter, (hard pack)	15	1.0	17
Raleigh	king size, filter	15	1.0	17
Winston	king size, filter	15	1.1	16
Long Johns 120's	120mm, filter, menthol	16	1.3	17
Raleigh 100's	100mm, filter	16	1.1	17
Kool	king size, filter, menthol	16	1.1	17
Benson & Hedges 100's	100mm, filter, menthol, (hard pack)	16	1.0	15
Newport	king size, filter, menthol, (hard pack)	16	1.2	16
Lark 100's	100mm, filter	16	1.2	15
Benson & Hedges 100's	100mm, filter, menthol	16	1.1	17
Camel	king size, filter	16	1.2	16
Marlboro	king size, filter, (hard pack)	16	1.0	14
Benson & Hedges 100's	100mm, filter, (hard pack)	16	1.1	16
Winston	king size, filter, (hard pack)	16	1.1	15
Marlboro 100's	100mm, filter, (hard pack)	16	1.1	16
Philip Morris International 100's	100mm, filter, menthol, (hard pack)	16	1.0	13
Half & Half	king size, filter	16	1.3	15
Marlboro 100's	100mm, filter	16	1.1	16
Kool	king size, filter, menthol, (hard pack)	16	1.2	16
Tall 120's	120mm, filter, menthol	16	1.4	17
Benson & Hedges 100's	100mm, filter	16	1.1	16
Philip Morris International 100's	100mm, filter, (hard pack)	16	1.1	16
Marlboro	king size, filter	16	1.0	15
Pall Mall 100's	100mm, filter	17	1.3	17
Old Gold Filters	king size, filter	17	1.3	19
Tall 120's	120mm, filter	17	1.4	19
Newport	king size, filter, menthol	17	1.3	18
Pall Mall	king size, filter	18	1.2	18
Long Johns 120's	120mm, filter	18	1.4	18

2021574850

1 TPM dry (tar) - milligrams total particulate matter less nicotine and water.
2 All scores below 0.5 mg. "tar," 0.05 mg. nicotine and 0.5 mg. carbon monoxide reported as 0.5, 0.05, 0.5, respectively.
3 See statement in text concerning Barclay.

Source: https://www.industrydocuments.ucsf.edu/docs/mshm0000

Tar[1], Nicotine and Carbon Monoxide Content of Two-Hundred (200)
Varieties of Domestic Cigarettes
(shown in increasing order of tar values)

BRAND	TYPE	TAR (mg/cig)	NICOTINE (mg/cig)	CARBON MONOXIDE (mg/cig)
Winston International 100's	100mm, filter	18	1.4	16
More 120's	120mm, filter	18	1.4	20
More 120's	120mm, filter, menthol	18	1.5	20
Max 120's	120mm, filter	19	1.6	18
Max 120's	120mm, filter, menthol	19	1.6	18
Spring 100's	100mm, filter, menthol	19	1.1	18
Kool	reg. size, non-filter, menthol	19	1.1	14
Picayune	reg. size, non-filter	19	1.4	15
Old Gold Filters	100mm, filter	20	1.5	20
Newport 100's	100mm, filter, menthol	20	1.6	20
Camel	reg. size, non-filter	21	1.4	13
Chesterfield	reg. size, non-filter	21	1.3	13
Philip Morris	reg. size, non-filter	21	1.4	12
Raleigh	king size, non-filter	22	1.3	17
English Ovals	reg. size, non-filter, (hard pack)	23	1.7	12
Lucky Strike	reg. size, non-filter	24	1.5	17
Players	reg. size, non-filter, (hard pack)	24	1.9	14
Pall Mall	king size, non-filter	24	1.5	17
Chesterfield	king size, non-filter	25	1.7	16
Old Gold Straight	king size, non-filter	26	1.8	17
Philip Morris Commander	king size, non-filter	27	1.7	15
Herbert Tareyton	king size, non-filter	27	1.7	19
English Ovals	king size, non-filter, (hard pack)	28	2.1	15
Bull Durham	king size, filter	29	1.9	24

2021574851

1 TPM dry (tar) - milligrams total particulate matter less nicotine and water.
2 All scores below 0.5 mg. "tar," 0.05 mg. nicotine and 0.5 mg. carbon monoxide reported as <0.5, <0.05, <0.5, respectively.
3 See statement in text concerning Barclay.

Source: https://www.industrydocuments.ucsf.edu/docs/mshm0000

Tar[1], Nicotine and Carbon Monoxide Content of Two-Hundred (200) Varieties of Domestic Cigarettes (shown in increasing order of nicotine values)

BRAND	TYPE	TAR (mg/cig)	NICOTINE (mg/cig)	CARBON MONOXIDE (mg/cig)
Cambridge 3/	king size, filter, (hard pack)	<0.5	<0.05	<0.5
Carlton 3/	king size, filter, (hard pack)	<0.5	<0.05	<0.5
Now 100's 3/	100mm, filter, (hard pack)	<0.5	<0.05	<0.5
Now 3/	king size, filter, (hard pack)	<0.5	0.1	<0.5
Carlton 3/	king size, filter, menthol	<0.5	0.1	1
Carlton 100's 3/	100mm, filter, (hard pack)	<0.5	0.1	1
Benson & Hedges 3/	reg. size, filter, (hard pack)	<0.5	0.1	1
Carlton 3/	king size, filter	<0.5	0.1	1
Cambridge 3/	king size, filter	<0.5	0.1	1
Carlton 100's 3/	100mm, filter, menthol, (hard pack)	<0.5	0.1	1
Tareyton Ultra Low Tar	king size, filter, menthol	1	0.1	1
Barclay 4/	king size, filter, (hard pack)	1	0.1	1
Barclay 4/	king size, filter	1	0.2	1
True Ultra One	king size, filter	1	0.2	1
Now 100's	100mm, filter	1	0.2	1
Now	king size, filter, menthol	2	0.2	3
Now 100's	100mm, filter, menthol	1	0.2	1
Now	king size, filter	2	0.2	3
Barclay 100's 4/	100mm, filter	2	0.3	2
Iceberg 100's	100mm, filter, menthol	2	0.3	4
Merit Ultra Lights	king size, filter, menthol	3	0.3	4
Cambridge 100's	100mm, filter	3	0.3	5
Kent III	king size, filter	2	0.3	3
Merit Ultra Lights	king size, filter	3	0.3	4
Lucky 100's	100mm, filter	3	0.3	4
Triumph	king size, filter, menthol	2	0.3	3
Carlton 100's	100mm, filter, menthol	3	0.3	4
Carlton 100's	100mm, filter	4	0.4	6
Triumph	king size, filter	3	0.4	3
Salem Ultra	king size, filter, menthol	3	0.4	4
Doral II	king size, filter	4	0.4	3
Salem Ultra 100's	100mm, filter, menthol	4	0.4	5
Winston Ultra	king size, filter	4	0.4	5
Doral II	king size, filter, menthol	4	0.4	3
True	king size, filter, menthol	4	0.4	5
Tareyton Lights	king size, filter	5	0.4	5
True	king size, filter	4	0.4	5
Decade	king size, filter, menthol	5	0.4	4
Decade	king size, filter	5	0.4	4
Winston Ultra 100's	100mm, filter	5	0.5	7
Vantage Ultra Lights 100's	100mm, filter	5	0.5	8
Triumph 100's	100mm, filter, menthol	4	0.5	5
Triumph 100's	100mm, filter	4	0.5	6
Kent III 100's	100mm, filter	4	0.5	7

1 TPM dry (tar) - milligrams total particulate matter less nicotine and water.
2 Milligrams total alkaloids reported as nicotine.
3 All scores below 0.5 mg. "tar," 0.05 mg. nicotine and 0.5 mg. carbon monoxide reported as <0.5, <0.05, <0.5, respectively.
4 See statement in text concerning Barclay.

2021574852

Source: https://www.industrydocuments.ucsf.edu/docs/mshm0000

Tar[1], Nicotine and Carbon Monoxide Content of Two-Hundred (200) Varieties of Domestic Cigarettes
(shown in increasing order of nicotine values)

BRAND	TYPE	TAR (mg/cig)	NICOTINE (mg/cig)	CARBON MONOXIDE (mg/cig)
Merit	king size, filter	7	0.5	10
Merit	king size, filter, menthol	7	0.5	10
Kool Super Lights	king size, filter, menthol	6	0.5	7
Carlton 120's	120mm, filter, menthol	5	0.5	5
Vantage Ultra Lights	king size, filter	6	0.5	9
Pall Mall Extra Light	king size, filter	6	0.5	6
Virginia Slims Lights 100's	100mm, filter, (hard pack)	7	0.6	8
Virginia Slims Lights 100's	100mm, filter, menthol, (hard pack)	7	0.6	8
Salem Lights	king size, filter, menthol	8	0.6	10
Lark Lights 100's	100mm, filter	7	0.6	7
Lark Lights	king size, filter	7	0.6	7
Carlton 120's	120mm, filter	6	0.6	6
Tareyton Long Lights 100's	100mm, filter	7	0.6	7
True 100's	100mm, filter, menthol	8	0.6	9
Camel Lights	king size, filter, (hard pack)	6	0.6	7
Lucky Ten	king size, filter	8	0.6	9
Parliament Lights	king size, filter	9	0.6	10
True 100's	100mm, filter	7	0.6	9
Parliament Lights	king size, filter, (hard pack)	9	0.6	10
Belair 100's	100mm, filter, menthol	8	0.6	10
Arctic Lights 100's	100mm, filter, menthol	7	0.6	9
Arctic Lights	king size, filter, menthol	8	0.6	9
American Lights 120's	120mm, filter, menthol	8	0.7	8
Vantage 100's	100mm, filter	8	0.7	12
Merit 100's	100mm, filter, menthol	9	0.7	11
Viceroy Rich Lights	king size, filter	8	0.7	10
Merit 100's	100mm, filter	10	0.7	12
American Lights 120's	120mm, filter	8	0.7	9
Camel Lights	king size, filter	8	0.7	10
Golden Lights	king size, filter, menthol	8	0.7	8
Vantage	king size, filter	9	0.7	13
Golden Lights	king size, filter	7	0.7	8
Golden Lights 100's	100mm, filter, menthol	7	0.7	7
Benson & Hedges Lights 100's	100mm, filter, menthol, (hard pack)	10	0.7	11
Belair	king size, filter, menthol	8	0.7	9
Kool Super Lights 100's	100mm, filter, menthol	9	0.7	12
Raleigh Lights	king size, filter	8	0.7	11
Marlboro Lights	king size, filter, (hard pack)	10	0.7	12
Newport Lights	king size, filter, menthol, (hard pack)	8	0.7	10
Vantage	king size, filter, menthol	10	0.7	14
Benson & Hedges Lights 100's	100mm, filter, menthol	10	0.7	12
Benson & Hedges Lights 100's	100mm, filter, (hard pack)	11	0.7	11
Marlboro Lights 100's	100mm, filter	10	0.7	12
L & M Lights 100's	100mm, filter	7	0.7	6

2021574853

1 TPM dry (tar) - milligrams total particulate matter less nicotine and water.
2 Milligrams total alkaloids reported as nicotine.
3 All scores below 0.5 mg. "tar," 0.05 mg. nicotine and 0.5 mg. carbon monoxide reported as <0.5, <0.05, <0.5, respectively.

Source: https://www.industrydocuments.ucsf.edu/docs/mshm0000

Tar[1], Nicotine and Carbon Monoxide Content of Two-Hundred (200) Varieties of Domestic Cigarettes (shown in increasing order of nicotine values)

BRAND	TYPE	TAR (mg/cig)	NICOTINE (mg/cig)	CARBON MONOXIDE (mg/cig)
Benson & Hedges Light 100's	100mm, filter	10	0.7	13
L & M Lights	king size, filter	8	0.7	7
Marlboro Lights	king size, filter	11	0.7	12
Viceroy Rich Lights 100's	100mm, filter	9	0.8	12
L & M Lights 100's	100mm, filter, menthol	7	0.8	6
Newport Lights	king size, filter, menthol	8	0.8	10
Raleigh Lights 100's	100mm, filter	9	0.8	13
Salem Lights 100's	100mm, filter, menthol	9	0.8	11
Multifilter	king size, filter, menthol	12	0.8	11
Golden Lights 100's	100mm, filter	8	0.8	9
Ducado 100's	100mm, filter	8	0.8	7
Multifilter	king size, filter	12	0.8	11
Pall Mall Light 100's	100mm, filter	9	0.8	9
Winston Lights	king size, filter	11	0.9	11
Camel Lights 100's	100mm, filter	12	0.9	15
Marlboro	king size, filter, menthol	14	0.9	14
Parliament Lights 100's	100mm, filter	12	0.9	11
Kool Milds	king size, filter, menthol	11	0.9	12
Winston Lights 100's	100mm, filter	12	0.9	14
Alpine	king size, filter, menthol	14	0.9	13
Hi-Lite 100's	100mm, filter, (hard pack)	12	0.9	13
Marlboro	king size, filter, menthol, (hard pack)	15	0.9	14
Old Gold Lights	king size, filter	10	0.9	10
Galaxy	king size, filter	14	1.0	13
Viceroy	king size, filter	15	1.0	16
Kent	king size, filter, (hard pack)	12	1.0	
Tareyton	king size, filter	14	1.0	15
Kool Milds 100's	100mm, filter, menthol	12	1.0	13
Virginia Slims 100's	100mm, filter, menthol	15	1.0	14
Muntclair	king size, filter, menthol	14	1.0	16
L & M	king size, filter	14	1.0	15
Kent	king size, filter	13	1.0	13
Virginia Slims 100's	100mm, filter	15	1.0	15
L & M	king size, filter, (hard pack)	15	1.0	14
Raleigh	king size, filter	15	1.0	17
Philip Morris International 100's	100mm, filter, menthol (hard pack)	16	1.0	15
Silva Thins 100's	100mm, filter, menthol	11	1.0	9
Winston 100's	100mm, filter	14	1.0	14
Saratoga 120's	120mm, filter, (hard	15	1.0	16
Saratoga 120's	120mm, filter, menthol, (hard pack)	15	1.0	16
Oasis	king size, filter, menthol	15	1.0	15
Silva Thins 100's	100mm, filter	11	1.0	9
DeMauriac	king size, filter, (hard pack)	15	1.0	17
Marlboro	king size, filter, (hard pack)	16	1.0	14

2021574854

1 TPM dry (tar) - milligrams total particulate matter less nicotine and water.
2 Milligrams total alkaloids reported as nicotine.
3 All scores below 0.5 mg. "tar," 0.05 mg. nicotine and 0.5 mg. carbon monoxide reported as <0.5, <0.05, <0.5, respectively.

Source: https://www.industrydocuments.ucsf.edu/docs/mshm0000

Tar[1], Nicotine and Carbon Monoxide Content of Two-Hundred (200) Varieties of Domestic Cigarettes : (shown in increasing order of nicotine values)

BRAND	TYPE	TAR (mg/cig)	NICOTINE (mg/cig)	CARBON MONOXIDE (mg/cig)
Kool Super Longs 100's	100mm, filter, menthol	14	1.0	16
Chesterfield	king size, filter	13	1.0	15
Marlboro	king size, filter	16	1.0	13
Benson & Hedges 100's	100mm, filter, menthol, (hard pack)	14	1.0	13
Tareyton 100's	100mm, filter	14	1.1	16
Pall Mall Light 100's	100mm, filter, menthol	12	1.1	12
Benson & Hedges Lights 100's	100mm, filter, menthol	16	1.1	17
Salem	king size, filter, menthol	14	1.1	14
Benson & Hedges 100's	100mm, filter, (hard pack)	16	1.1	16
St. Moritz 100's	100mm, filter	14	1.1	13
Marlboro 100's	100mm, filter, (hard pack)	16	1.1	16
Marlboro 100's	100mm, filter	16	1.1	16
Philip Morris International 100's	100mm, filter, (hard pack)	16	1.1	16
L & M 100's	100mm, filter	13	1.1	16
Viceroy Super Longs 100's	100mm, filter	15	1.1	16
Benson & Hedges 100's	100mm, filter	16	1.1	16
Winston	king size, filter	13	1.1	16
Lark	king size, filter	14	1.1	14
Raleigh 100's	100mm, filter	16	1.1	17
Eve Lights 120's	120mm, filter, menthol, (hard pack)	14	1.1	12
Chesterfield 101	101mm, filter	13	1.1	16
St. Moritz 100's	100mm, filter, menthol	14	1.1	14
Winston	king size, filter, (hard pack)	16	1.1	15
Spring 100's	100mm, filter, menthol	17	1.1	18
Kool	reg. size, non-filter, menthol	19	1.1	14
Eve Lights 120's	120mm, filter, (hard pack)	14	1.1	13
Kool	king size, filter, menthol	16	1.1	17
Salem 100's	100mm, filter, menthol	15	1.1	14
Eve 100's	100mm, filter	15	1.2	14
Eve 100's	100mm, filter, menthol	15	1.2	14
Kent 100's	100mm, filter	14	1.2	13
Benson & Hedges	king size, filter, (hard pack)	13	1.2	12
Camel	king size, filter	16	1.2	16
Lark 100's	100mm, filter	16	1.2	15
Pall Mall	king size, filter	18	1.2	18
Newport	king size, filter, menthol, (hard pack)	16	1.2	16
Kool	king size, filter, menthol, (hard pack)	16	1.2	16
Kent 100's	100mm, filter, menthol	13	1.2	14
Pall Mall 100's	100mm, filter	17	1.3	17
Chesterfield	reg. size, non-filter	21	1.3	13
Raleigh	king size, non-filter	22	1.3	17
Half & Half	king size, filter	16	1.3	15
Long Johns 120's	120mm, filter, menthol	16	1.3	17
Newport	king size, filter, menthol	17	1.3	18

2021574855

1 TPM dry (tar) - milligrams total particulate matter less nicotine and water.
2 Milligrams total alkaloids reported as nicotine.

Source: https://www.industrydocuments.ucsf.edu/docs/mshm0000

Tar[1], Nicotine and Carbon Monoxide Content of Two-Hundred (200) Varieties of Domestic Cigarettes (shown in increasing order of nicotine values)

BRAND	TYPE	TAR (mg/cig)	NICOTINE (mg/cig)	CARBON MONOXIDE (mg/cig)
Old Gold Filters	king size, filter	17	1.3	19
Tall 120's	120mm, filter, menthol	16	1.4	17
Picayune	reg. size, non-filter	19	1.4	15
Long Johns 120's	120mm, filter	18	1.4	18
Philip Morris	reg. size, non-filter	21	1.4	12
Winston International 100's	100mm, filter	18	1.4	16
Tall 120's	120mm, filter	17	1.4	19
Camel	reg. size, non-filter	21	1.4	13
More 120's	120mm, filter	18	1.4	20
Lucky Strike	reg. size, non-filter	24	1.5	17
Pall Mall	king size, non-filter	24	1.5	17
More 120's	120mm, filter, menthol	18	1.5	20
Old Gold Filters	100mm, filter	20	1.5	20
Max 120's	120mm, filter	19	1.6	18
Newport 100's	100mm, filter, menthol	20	1.6	20
Max 120's	120mm, filter, menthol	19	1.6	18
Chesterfield	king size, non-filter	25	1.7	16
English Ovals	reg. size, non-filter, (hard pack)	23	1.7	12
Philip Morris Commander	king size, non-filter	27	1.7	15
Herbert Tareyton	king size, non-filter	27	1.7	19
Old Gold Straight	king size, non-filter	26	1.8	17
Players	reg. size, non-filter, (hard pack)	24	1.9	14
Bull Durham	king size, filter	29	1.9	24
English Ovals	king size, non-filter, (hard pack)	28	2.1	15

2021574856

1 TPM dry (tar) - milligrams total particulate matter less nicotine and water.
2 Milligrams total alkaloids reported as nicotine.
3 All scores below 0.5 mg. "tar," 0.05 mg. nicotine and 0.5 mg. carbon monoxide reported as <0.5, <0.05, <0.5, respectively.

Source: https://www.industrydocuments.ucsf.edu/docs/mshm0000

Tar[1], Nicotine[2] and Carbon Monoxide Content of Two-Hundred (200)
Varieties of Domestic Cigarettes
(shown in increasing order of carbon monoxide values)

BRAND	TYPE	TAR (mg/cig)	NICOTINE (mg/cig)	CARBON MONOXIDE (mg/cig)
Cambridge 3/	king size, filter, (hard pack)	<0.5	<0.05	<0.5
Carlton 3/	king size, filter, (hard pack)	<0.5	<0.05	<0.5
Now 3/	king size, filter, (hard pack)	<0.5	0.1	<0.5
Now 100's 3/	100mm, filter, (hard pack)	<0.5	<0.05	<0.5
Carlton 100's 3/	100mm, filter, (hard pack)	<0.5	0.1	1
Carlton 100's 3/	100mm, filter, menthol, (hard pack)	<0.5	0.1	1
Carlton 3/	king size, filter, menthol	<0.5	0.1	1
Tareyton Ultra Low Tar	king size, filter, menthol	1	0.1	1
Barclay 4/	king size, filter, (hard pack)	1	0.1	1
Cambridge 3/	king size, filter	<0.5	0.1	1
True Ultra One	king size, filter	1	0.2	1
Barclay 4/	king size, filter	1	0.2	1
Benson & Hedges 3/	reg. size, filter, (hard pack)	<0.5	0.1	1
Now 100's	100m , filter	1	0.2	1
Now 100's	100mm, filter, menthol	1	0.2	1
Carlton 3/	king size, filter	<0.5	0.1	1
Barclay 100's 4/	100mm, filter	2	0.3	2
Now	king size, filter, menthol	2	0.2	3
Triumph	king size, filter, menthol	2	0.3	3
Now	king size, filter	2	0.2	3
Kent III	king size, filter	2	0.3	3
Triumph	king size, filter	3	0.4	3
Doral II	king size, filter	4	0.4	3
Doral II	king size, filter, menthol	4	0.4	3
Merit Ultra Lights	king size, filter, menthol	3	0.3	4
Iceberg 100's	100mm, filter, menthol	3	0.3	4
Merit Ultra Lights	king size, filter	3	0.3	4
Salem Ultra	king size, filter, menthol	3	0.4	4
Decade	king size, filter, menthol	5	0.4	4
Decade	king size, filter	5	0.4	4
Carlton 100's	100mm, filter, menthol	3	0.3	4
Lucky 100's	100mm, filter	3	0.3	4
Cambridge 100's	100mm, filter	3	0.3	5
Winston Ultra	king size, filter	4	0.4	5
True	king size, filter	4	0.4	5
Carlton 120's	120mm, filter, menthol	5	0.5	5
True	king size, filter, menthol	4	0.4	5
Tareyton Lights	king size, filter	5	0.4	5
Salem Ultra 100's	100mm, filter, menthol	4	0.4	5
Triumph 100's	100mm, filter, menthol	4	0.5	5
Carlton 100's	100mm, filter	6	0.4	6
L & M Lights 100's	100mm, filter	7	0.7	6
L & M Lights 100's	100mm, filter, menthol	7	0.8	6
Carlton 120's	120mm, filter	6	0.4	6

2021574857

1 TPM dry (tar) - milligrams total particulate matter less nicotine and water.
2 Milligrams total alkaloids reported as nicotine.
3 All scores below 0.5 mg. "tar," 0.05 mg. nicotine and 0.5 mg. carbon monoxide reported as <0.5, <0.05, <0.5, respectively.

Source: https://www.industrydocuments.ucsf.edu/docs/mshm0000

Tar[1], Nicotine and Carbon Monoxide Content of Two-Hundred (200) Varieties of Domestic Cigarettes.
(shown in increasing order of carbon monoxide values)

BRAND	TYPE	TAR (mg/cig)	NICOTINE (mg/cig)	CARBON MONOXIDE (mg/cig)
Triumph 100's	100mm, filter	4	0.5	6
Pall Mall Extra Light	king size, filter	6	0.5	6
L & M Lights	king size, filter	8	0.7	7
Camel Lights	king size, filter, (hard pack)	6	0.6	7
Kent III 100's	100mm, filter	4	0.5	7
Golden Lights 100's	100mm, filter, menthol	7	0.7	7
Kool Super Lights	king size, filter, menthol	6	0.5	7
Tareyton Long Lights 100's	100mm, filter	7	0.6	7
Lark Lights 100's	100mm, filter	7	0.6	7
Winston Ultra 100's	100mm, filter	5	0.5	7
Decade 100's	100mm, filter	8	0.8	7
Lark Lights	king size, filter	7	0.6	7
Vantage Ultra Lights 100's	100mm, filter	5	0.5	8
Golden Lights	king size, filter, menthol	8	0.7	8
Virginia Slims Lights 100's	100mm, filter, menthol (hard pack)	7	0.6	8
Golden Lights	king size, filter	7	0.7	8
Virginia Slims Lights 100's	100mm, filter, (hard pack)	7	0.6	8
American Lights 120's	120mm, filter, menthol	8	0.7	8
American Lights 120's	120mm, filter	8	0.7	9
Arctic Lights	king size, filter, menthol	8	0.6	9
True 100's	100mm, filter	7	0.6	9
Pall Mall Light 100's	100mm, filter	9	0.8	9
Golden Lights 100's	100mm, filter	8	0.8	9
Vantage Ultra Lights	king size, filter	6	0.5	9
Belair	king size, filter, menthol	8	0.7	9
True 100's	100mm, filter, menthol	8	0.6	9
Silva Thins 100's	100mm, filter, menthol	11	1.0	9
Arctic Lights 100's	100mm, filter, menthol	7	0.6	9
Silva Thins 100's	100mm, filter	11	1.0	9
Lucky Ten	king size, filter	8	0.6	9
Salem Lights	king size, filter, menthol	8	0.6	10
Newport Lights	king size, filter, menthol	8	0.8	10
Merit	king size, filter, menthol	7	0.5	10
Newport Lights	king size, filter, menthol, (hard pack)	8	0.7	10
Viceroy Rich Lights	king size, filter	8	0.7	10
Camel Lights	king size, filter	8	0.7	10
Belair 100's	100mm, filter, menthol	8	0.6	10
Parliament Lights	king size, filter	9	0.6	10
Parliament Lights	king size, filter, (hard pack)	9	0.6	10
Merit	king size, filter	7	0.5	10
Old Gold Lights	king size, filter	10	0.9	10
Raleigh Lights	king size, filter	8	0.7	11
Benson & Hedges Lights 100's	100mm, filter, menthol, (hard pack)	10	0.7	11
Multifilter	king size, filter, menthol	12	0.8	11

2021574858

1 TPM dry (tar) - milligrams total particulate matter less nicotine and water.
2 Milligrams total alkaloids reported as nicotine.

Source: https://www.industrydocuments.ucsf.edu/docs/mshm0000

Tar[1], Nicotine and Carbon Monoxide Content of Two-Hundred (200) Varieties of Domestic Cigarettes
(shown in increasing order of carbon monoxide values)

BRAND	TYPE	TAR (mg/cig)	NICOTINE (mg/cig)	CARBON MONOXIDE (mg/cig)
Winston Lights	king size, filter	11	0.9	11
Parliament Lights 100's	100mm, filter	12	0.9	11
Salem Lights 100's	100mm, filter, menthol	9	0.8	11
Benson & Hedges Lights 100's	100mm, filter, (hard pack)	11	0.7	11
Multifilter	king size, filter	12	0.8	11
Merit 100's	100mm, filter, menthol	9	0.7	11
Viceroy Rich Lights 100's	100mm, filter	9	0.8	12
Marlboro Lights	king size, filter, menthol	10	0.7	12
Benson & Hedges Lights 100's	100mm, filter, menthol	10	0.7	12
English Ovals	reg. size, non-filter, (hard pack)	23	1.7	12
Pall Mall Light 100's	100mm, filter, menthol	12	1.1	12
Kool Super Lights 100's	100mm, filter, menthol	9	0.7	12
Vantage 100's	100mm, filter	8	0.7	12
Kent	king size, filter, (hard pack)	12	1.0	12
Merit 100's	100mm, filter	10	0.7	12
Eve Lights 120's	120mm, filter, menthol, (hard pack)	14	1.1	12
Benson & Hedges	king size, filter, (hard pack)	15	1.2	12
Kool Milds	king size, filter, menthol	11	0.9	12
Philip Morris	reg. size, non-filter	21	1.4	12
Marlboro Lights	king size, filter	11	0.7	12
Marlboro Lights 100's	100mm, filter	10	0.7	12
Vantage	king size, filter	9	0.7	13
Camel	reg. size, non-filter	21	1.4	13
Kent	king size, filter	13	1.0	13
Eve Lights 120's	120mm, filter, (hard pack)	14	1.1	13
Raleigh Lights 100's	100mm, filter	9	0.8	13
Kool Milds 100's	100mm, filter, menthol	12	1.0	13
Benson & Hedges Lights 100's	100mm, filter	10	0.7	13
Hi-Lite 100's	100mm, filter, (hard pack)	12	0.9	13
Chesterfield	reg. size, non-filter	21	1.3	13
Galaxy	king size, filter	14	1.0	13
Alpine	king size, filter, menthol	14	0.9	13
St. Moritz 100's	100mm, filter	14	1.1	13
Kent 100's	100mm, filter	14	1.2	13
Marlboro	king size, filter, menthol	14	0.9	14
Salem 100's	100mm, filter, menthol	15	1.1	14
Salem	king size, filter, menthol	14	1.1	14
Kent 100's	100mm, filter, menthol	15	1.2	14
Marlboro	king size, filter, menthol, (hard pack)	15	0.9	14
Lark	king size, filter	14	1.1	14
Players	reg. size, non-filter, (hard pack)	24	1.9	14
Virginia Slims 100's	100mm, filter, menthol	15	1.0	14
Winston 100's	100mm, filter	14	1.0	14
St. Moritz 100's	100mm, filter, menthol	14	1.1	14

2021574859

1 TPM dry (tar) - milligrams total particulate matter less nicotine and water.

2 Milligrams total alkaloids reported as nicotine.

3 All numbers below 0.5 mg "tar" 0.05 mg. nicotine and 0.5 mg. carbon monoxide reported as <0.5, <0.05, <0.5, respectively.

Source: https://www.industrydocuments.ucsf.edu/docs/mshm0000

Tar[1], Nicotine and Carbon Monoxide Content of Two-Hundred (200)
Varieties of Domestic Cigarettes
(shown in increasing order of carbon monoxide values)

BRAND	TYPE	TAR (mg/cig)	NICOTINE (mg/cig)	CARBON MONOXIDE (mg/cig)
Vantage	king size, filter, menthol	10	0.7	14
Winston Lights 100's	100mm, filter	12	0.9	14
Kool	reg. size, non-filter, menthol	19	1.1	14
Eve 100's	100mm, filter	15	1.2	14
Eve 100's	100mm, filter, menthol	15	1.2	14
L & M	king size, filter, (hard pack)	15	1.0	14
Marlboro	king size, filter, (hard pack)	16	1.0	14
Camel Lights 100's	100mm, filter	12	0.9	15
English Ovals	king size, non-filter, (hard pack)	28	2.1	15
Half & Half	king size, filter	14	1.3	15
L & M	king size, filter	14	1.0	15
Oasis	king size, filter, menthol	15	1.0	15
Lark 100's	100mm, filter	16	1.2	15
Benson & Hedges 100's	100mm, filter, menthol, (hard pack)	16	1.0	15
Picayune	reg. size, non-filter	19	1.4	15
Winston	king size, filter, (hard pack)	14	1.1	15
Philip Morris International 100's	100mm, filter, menthol, (hard pack)	16	1.0	15
Virginia Slims 100's	100mm, filter	15	1.0	15
Chesterfield	king size, filter	15	1.0	15
Philip Morris Commander	king size, non-filter	27	1.7	15
Marlboro	king size, filter	16	1.0	15
Tareyton	king size, filter	14	1.0	15
Winston	king size, filter	15	1.1	16
L & M 100's	100mm, filter	15	1.1	16
Benson & Hedges 100's	100mm, filter, (hard pack)	16	1.1	16
Saratoga 120's	120mm, filter, menthol, (hard pack)	15	1.0	16
Philip Morris International 100's	100mm, filter, (hard pack)	16	1.1	16
Montclair	king size, filter, menthol	14	1.0	16
Saratoga 120's	120mm, filter, (hard pack)	15	1.0	16
Marlboro 100's	100mm, filter, (hard pack)	16	1.1	16
Viceroy	king size, filter	15	1.0	16
Kool Super Longs 100's	100mm, filter, menthol	14	1.0	16
Camel	king size, filter	16	1.2	16
Newport	king size, filter, menthol, (hard pack)	16	1.2	16
Chesterfield	king size, non-filter	25	1.7	16
Tareyton 100's	100mm, filter	14	1.1	16
Marlboro 100's	100mm, filter	16	1.1	16
Chesterfield 101	100mm, filter	15	1.1	16
Benson & Hedges 100's	100mm, filter	16	1.1	16
Kool	king size, filter, menthol, (hard pack)	16	1.2	16
Winston International 100's	100mm, filter	18	1.4	16
Viceroy Super Longs 100's	100mm, filter	15	1.1	16
Kool	king size, filter, menthol	16	1.1	17
Benson & Hedges 100's	100mm, filter, menthol	16	1.1	17

2021574860

1 TPM dry (tar) - milligrams total particulate matter less nicotine and water.
2 Milligrams total alkaloids reported as nicotine.
3 All scores below 0.5 mg. "tar," 0.05 mg. nicotine and 0.5 mg. carbon monoxide reported as <0.5, <0.05, <0.5, respectively.

Source: https://www.industrydocuments.ucsf.edu/docs/mshm0000

Tar[1], Nicotine and Carbon Monoxide Content of Two-Hundred (200)
Varieties of Domestic Cigarettes
(shown in increasing order of carbon monoxide values)

BRAND	TYPE	TAR (mg/cig)	NICOTINE (mg/cig)	CARBON MONOXIDE (mg/cig)
Raleigh 100's	100mm, filter	16	1.1	17
Long Johns 120's	120mm, filter, menthol	16	1.1	17
Pall Mall	king size, non-filter	24	1.5	17
Raleigh	king size, non-filter	22	1.1	17
Dutchmaster	king size, filter, (hard pack)	15	1.0	17
Lucky Strike	reg. size, non-filter	24	1.5	17
Tall 120's	120mm, filter, menthol	16	1.4	17
Old Gold Straight	king size, non-filter	26	1.8	17
Raleigh	king size, filter	15	1.0	17
Pall Mall 100's	100mm, filter	17	1.3	17
Spring 100's	100mm, filter, menthol	19	1.1	18
Max 120's	120mm, filter	19	1.6	18
Max 120's	120mm, filter, menthol	19	1.6	18
Newport	king size, filter, menthol	17	1.3	18
Pall Mall	king size, filter	18	1.2	18
Long John 120's	120mm, filter	18	1.6	18
Tall 120's	120mm, filter	17	1.4	19
Old Gold Filter	king size, filter	17	1.3	19
Herbert Tareyton	king size, non-filter	27	1.7	19
Newport 100's	100mm, filter, menthol	20	1.6	20
More 120's	120mm, filter, menthol	18	1.5	20
Old Gold Filter 100's	100mm, filter	20	1.5	20
More 120's	120mm, filter	18	1.4	20
Bull Durham	king size, filter	29	1.9	24

2021574861

1 TPM dry (tar) - milligrams total particulate matter less nicotine and water.
2 Milligrams total alkaloids reported as nicotine.
3 All scores below 0.5 mg. "tar," 0.05 mg. nicotine and 0.5 mg. carbon monoxide reported as <0.5, <0.05, <0.5, respectively.

Source: https://www.industrydocuments.ucsf.edu/docs/mshm0000